

## **REMARKS**

Claims 30-34 are in the case and presented for reconsideration.

Claims 30-34 have been finally rejected on three separate and new bases that the Examiner indicated rendered the previous arguments moot in view of the new grounds of rejection.

Accordingly this amendment is filed with an RCE and the Examiner's consideration of these remarks is respectfully requested since the claims are believed to patentably define over the newly cited prior art.

Claims 30-34 were rejected as anticipated or as being obvious in view of U.S. Patent 5,703,709 to Mori et al. (Mori) or U.S. Patent 5,932,119 to Kaplan et al. (Kaplan), both describing a laser marking systems with selectable ray intensity, sensor means and programmable control.

Claims 30-34 were also rejected as anticipated or as being obvious in view of U.S. Patent 5,120,928 to Piliero (Piliero) or U.S. Patent 5,897,797 to Drouillard et al. (Drouillard). Both of these references also describe laser marking. Piliero describes marking on cheese or meat. Drouillard describes marking on fruits and there is also citation of U.S. Patent 4,839,181 for the use of a laser with meat based products.

The third rejection of Claims 30-34 is based on the claims being obvious due to either NL9401841A to Maas (Mass) or DE19646813A1 to Hnatek (Hnatek). Maas describes meat marking with a laser marking system which provides adjustable intensity. Hnatek describes meat marking using a CO2 laser.

The claims here presented are believed to be novel and unobvious over these references because the claimed apparatus is:

(1) An apparatus for marking or engraving in high or low relief, meat products in raw or semi-raw state, comprising a programmable logic control (PLC) containing attachments for the identification of the meat product, in its raw or semi-raw state, recognizing its features of type, size, thickness, temperature, fat volume, volume/quantity of water, softness, protein and vitamin capacity ratio, freezing state or not, texture, quantity and size of internal bones, among other features of agreement according to the nature of the meat product;

(2) An apparatus for marking or engraving, according to the presented claims, contemplating a programmable logic control (PLC) also with the function to recognize and identify the features of a meat product, including its pH, its color, the quantity fibers and fat strings existent in the internal body, including micro-fibers, their internal dimensions and depth, width and/or height;

(3) An apparatus for marking or engraving, according to presented claims, contemplating a programming logic control (PLC), capable of identifying meat bodies of bovine, swine, caprine, poultry, fish origin, but also their physical anatomical and organoleptic aspects;

(4) An apparatus for marking or engraving, according to previous claims, after identification of the meat body, **capable of promoting the marking or engraving**, by isolated or simultaneous actions, in high or low relief, with the latter being also an isolated or simultaneous action;

(5) An apparatus for marking or engraving, according to previous claims, containing a laser device or with the capacity to produce calories, capable of **engraving or marking**, in low or high relief, reaching most of the meat body depth, independently

of its species or features;

(6) An apparatus for marking or engraving, according to the present claims, capable of **marking or engraving**, in **low or high relief**, according to meat features, the laser device intensity rays of which or calories will be applied to reach the meat body, crossing the fat plaques/ covers, reaching the meat body itself, and able to reach different angles at the same moment;

(7) An apparatus for marking or engraving, according to the present claims, where the laser application device, the wavelength of which is obtained from different components (gas, crystal, liquid, chemical reaction, etc.) applied according to the meat body and its features, devices previously regulated through the programming logic panel (PLC);

(8) An apparatus for marking, according to the present claims, the marking or engraving application device of which can be an electronically-controlled device capable of producing calories, containing mechanisms for marking or engraving the meat bodies, in high or low relief, with the latter – low relief – capable of reaching a small or high level of depth of the meat body;

(9) An apparatus for marking or engraving, according to the present claims, capable of engraving or marking, in high or low relief, meat bodies of any size, thickness or depth, in their raw or semi-raw state, including small pieces, as for example ground meat;

(10) An apparatus for marking or engraving, according to the present claims, capable of engraving or marking, in low or high relief, a raw or semi-raw meat body, the **marking or engraving of which will not disintegrate** even after preparation for human

consumption, possible of recognition through laboratory analysis;

(11) An apparatus for marking or engraving, according to the present claims, capable of engraving or marking in low or high relief, dispensing the application of inks or other substances to identify the meat body or its location where it will receive the marking of engraving, not **changing its natural state**;

(12) An apparatus for marking or engraving, according to the present claims, capable of engraving or marking in low or high relief, dispensing physical contact with the meat body;

(13) An apparatus for marking or engraving, according to the present claims, capable of engraving or marking, in low or high relief, apt to disregard any other body not made of meat, of animal origin and which is not in its raw or semi-raw state; and

(14) An apparatus for marking or engraving, according to the present claims, capable of engraving or marking, in low or high relief, apt to operate the marking or engraving, preferably regulated by the programming logic control (PLC), with or without sensor monitoring, capable of controlling the intention of engraving the form of the character, drawing and remaining information, without disintegrating or affecting the physical and/or natural state of the meat body, including its covers/plaques of fat, strings/fibers, muscles, nerves, bones, spines or other features.

**Distinctions of the Claimed Apparatus:**

1. The claimed apparatus has the capacity to realize a process of "marking" **OR** "**engraving**."

2. None of Mori or Kaplan or Drouillard or Piliero or Maas or Hnatek, teach the

technique of "**engraving**," but only and exclusively the capacity of "marking."

3. The processes of "markings" on "meat" realized by patents Piliero, U.S. Patent 4,839,181, Maas and Hnatek do not reveal the capacity of the apparatus to identify, through a PLC, "ALL" the features of the "meat body" type: size, thickness, temperature, fat volume, volume/ quantity of water, softness, protein and vitamin capacity ratio, freezing state or not, texture, quantity and size of internal bones, their pH, their color, the quantity of fibers or fat strings existent in their internal body, including micro-fibers, their internal dimensions and depth, width and/or height,

4. Also not defined in the technique state of the above mentioned references, is the capacity of the marking apparatus to provide, *after the identification of "the set" of features of the meat body,* the regulation and identification the type of process it will realize, that is, "**marking**" or "engraving", because the application of a process does not foresee the application of the other. **Marking** is characterized by the "act of exposing" a feature in a "**superficial**" manner "superficial" on the meat body, exclusively on the "external" face reaching only the "external skin of the meat" or at the most the "cover of the meat". **Engraving**, on the other hand, "*a technical aspect that was not revealed in any of the above mentioned priorities*", there is, therefore, no obviousness of this patent in relation to the mentioned priorities, is characterized by "opening, sculpting" a space on the meat body to register information, with the possibility of being realized from the product "cover", that is, not only on the "skin", reaching ample depth in the meat body.

5. Another distinction of the claims and *not identified previously by any of the patents pointed out as prior art* is the capacity of "**marking**" OR "**engraving**" to be carried out by the "equipment", in "**high**" or "low" relief.

5.1 As described in item 4, the process realized by the “**equipment**”: “**marking**” consists of a simple “**act of exposing**” a feature of superficial form on the **meat body**, that is, on the “**external**” face reaching the cover and a small depth of the meat, aiming only at “**signaling, indicating, determining**” the necessary marking features. The “**marking**”, therefore, is always realized in “**high relief**”. The process of “**engraving**”, realized by the same equipment, consists of “**opening, sculpting**” a space on the meat body to register the information to be exposed, which can occur from the “**cover**”, that is, “**the external face of the meat**” as well as and mostly reach **ample depth in the meat body**, without disintegrating it, so that through an **advanced technique**, allows that the identification features are not excluded from the meat body, and being identifiable even after the preparation and digestion by the final consumer. The “**engraving**” is always realized in “**low relief**” and consequently, “**the set of features revealed in patent 10/686,288**” constitute the fulfillment of the “**legal presuppositions**” related to “novelty, inventive activity and industrial application, as foreseen in the second paragraph of 35 USC 112, the Paris Convention, with the patent duly “identified” as an innovating technical solution, that is, as a novelty”.

6. An additional distinction is the **capacity to identify the “engraving” in “low” or “high” relief**, features that are not revealed in any of the mentioned priorities, noting that “**marking**” is not mistaken with “**engraving**” apart from the fact that “**low relief**” is applied in internal depth of the meat not visible to the naked eye, and are **not** capable of identification in **any state**, except by laboratory analysis, with the purpose of identifying the origin of the meat body, that is, its manufacturer/seller, in case any problem should come up with the product. *With such a process realized by the “equipment”, the product receives*

*a "sophisticated quality and origin seal", not yet produced in any meat body.* The equipment foreseen in patent 10/686,288, therefore, cannot produce an engraving in high or low relief in fruits and cheeses, due to the risk of disintegrating these products.

6.1 Products with a simple marking process are recognized only by the naked eye and are also disintegrated during the preparation for consumption. The result obtained by engraving process realized by this equipment, does not disintegrate even after the product is prepared for consumption, apart from capacitating the application of the **engraving even in small meat portions, of the ground meat type**, an additional feature revealed in the present patent and not identified in the mentioned priorities.

7. The laser alone, as already mentioned in previous actions, is not capable of the activity revealed as being novel here, simply because it is widely used in the market, in the most diverse industrial sectors, and was discovered many years ago and as such is not along, novel.

7.1 As identified by the Brazilian priority application of the current U.S. application, the *laser or any device capable of producing calories, are only instruments for the equipment to produce the engraving or marking, in low or high relief, considering that the novelty and exclusivity sought in the respective process deals with the "capacity" of the "equipment" in the identification of the meat body and of its "set of features"* to classify the type of process that will be applied, that is, of "marking" or "engraving" in high and low relief, as desired.

8. The equipment that produces the processes of Mori, Kaplan, Pillero and Drouillard, for example, do not contain the same features of the claimed equipment here considering and they are INCAPABLE of realizing "engravings" in "low or high relief", with

their processes identified only in the visual and touch form. Therefore, there is no obviousness in the requested patent due to these references.

9. The **programmable adjustment**, on the other hand, foreseen in the equipment of Mass (NL9401841A) *does not reveal quantum identified in patent 10/686,288 in the capacity of identifying features of the meat body, independently of its species and size*. Hnatek (DE19646813A), on the other hand, limits itself to describe the *traditional marking system of meat restricting the type of laser CO2, containing a moment sensor and a logic controller determined by a user, different from the novelty revealed in the claims of the current patent application no. 10/686,288, which apart from not restricting the type of laser, are not processed automatically and not by the user.*

The doctrine applicable to the Examiner's objects to the prior claims is pointed out hereby, especially in the United States, which aims at the non-creation of entrepreneurial/industrial monopolies to preserve the capacity of technology advances, especially in American industry, with the purpose of reserving for this State the recognition of worldwide leadership.

*"In Venice, in the XV Century. "Since the creation of the first national patent system, in the XV Century, the idea of Intellectual Property is connected with the mechanical arts: a new machine, a more efficient tool, an improved lever are the easiest examples of a patentable invention. A new chemical compound is a more magical creation: its utility is probably understandable, but not so its structure; even so, also there the patent was an early acquisition. Industrial processes, on the other hand, are invisible elaborations; they are not things to touch and see, even though*



*apparent through the disposition of apparent on a plant, or by means of a written procedure instructing how to combine some chemicals. The patent system was never worried about visibility or comprehensibility: processes, like products were almost instantly recognized as a proper patent object. The patent only wants reproducibility, and only needs to know how the invention can be put into practice. Patents were never intended to be scientific tools: they were created to substitute the older trade secret as a means to protect an economic value, particularly important face to the competitors. The Jacobean Statute of Monopolies of 1623, understandably in a time where a lack of alternate technologies granted extraordinary economic advantages to whomever knew how to do anything a new way, both considered the patent a monopolistic instrument and absolved it from such a sin for the novel industries it encouraged. (SELA, 1897)<sup>1</sup>*

The arguments presented here should lead to a re-appreciation of the set of novelties and inventive activities realized in the current application and in the invention as now claimed with the purpose to allow obtaining the respective Patent Letter.

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<sup>1</sup> Barbosa, Denis Borges, An Introduction to Intellectual Property, 2<sup>nd</sup> Edition, Lumen Juris, São Paulo, Brazil.

Accordingly, the application and claims are believed to be in condition for allowance, and favorable action is respectfully requested.

If any issues remain, the Examiner is respectfully invited to contact the undersigned to advance the application to allowance.

Respectfully submitted,

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